

**PROJECT NUMBER:** 2501  
**PROJECT TITLE :** Smoke Chemistry  
**PROJECT LEADER :** R. A. Comes  
**PERIOD COVERED :** December, 1990

## **I. SIDESTREAM SMOKE CHAMBER**

- A. **Objective:** Operate an environmentally controlled chamber to measure selected components of sidestream smoke.
- B. **Results:** Some components for the chamber adsorption/desorption gc/ms organic compound analysis system have been received. Preliminary plans for installation, testing and training are being coordinated with OI Analytical and Hewlett-Packard.

Changes have been made by personnel of the Computer Applications Division to the chamber computer software to facilitate the transfer of additional Factory Link data columns to the chamber database.

Multiple chamber maintenance items have been addressed in anticipation of an increased work load shortly. A water softener system has been installed to attempt to prevent the previous problems with the chamber boiler system.

A memo has been written describing the multiple problems encountered and successful conclusions reached in transferring the nicotine analysis to the chamber laboratory.

Initial checks of the chamber flow system have been made in anticipation of upcoming studies by personnel of the Biochemical Research Division.

- C. **Plans:** Chamber runs will continue as required.

## **II. SIDESTREAM SMOKE**

- A. **Objective:** Conduct studies on sidestream smoke including: development of methods for collection and analysis of sidestream semivolatiles and gas phase; visibility determinations; analysis of selected materials relating to sidestream odor and irritation; development of proprietary products.
- B. **Results:** The schlieren system for visualization of cigarette sidestream smoke has again been set up. Video capability for both schlieren and static and dynamic sidestream smoke now exists. The IR camera is being reinstalled. An IR applications course will be taken in January by a project member.
- C. **Plans:** CORESTA smokings and other support for the sidestream odor modification program will continue. The schlieren and IR camera systems will be used in support of the sidestream smoke reduction program.

**III. MISCELLANEOUS**

Pyrolysis gc/ms analyses were conducted on three fungicide samples and on samples with potential utility in the sidestream odor modification program.

In conjunction with personnel of the Biochemical Research Division, initial carbon-14 studies have begun to investigate the bacterial decomposition of nicotine.

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